

0015

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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November 18, 2004

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor *DWH*

FROM: *DD* Dana Dean, P.E., Senior Reclamation Hydrologist

RE: 2004 Second Quarter Water Monitoring, Sunnyside Cogeneration Association,  
Sunnyside Refuse/Slurry, C/007/0035-WQ04-3, Task #2065

*OK*

1. Was data submitted for all of the MRP required sites? YES ☒ NO ☐

*Identify sites not monitored and reason why, if known:*

2. On what date does the MRP require a five-year resampling of baseline water data.

See Technical Directive 004 for baseline resampling requirements. Consider the five-year baseline resubmittal when responding to question one above. Indicate if the MRP does not have such a requirement.

### Resampling due date

The MRP states that "once every five years (prior to each application for permit renewal) one sample from each of the monitoring sites listed in Table 7-2A will be sampled and analyzed for the parameters listed in Table 7-2B". The next requirement will be in 2007.

3. Were all required parameters reported for each site? YES ☒ NO ☐

*Comments, including identity of monitoring site:*

4. Were irregularities found in the data? YES ☒ NO ☐

*Comments, including identity of monitoring site:*

Several parameters fell outside of two standard deviations from the mean. They were:

Site	Parameter	Value	Deviations from Mean	Mean
CRB	Dissolved Magnesium	390	2.15	307.9
CRB	Dissolved Potassium	35.3	2.78	24.63
CRB	Total Anions	88.9	2.62	72.87
CRB	Total Sodium	606	3.56	489
F-2	Total Suspended Solids	22	5.29	5.25
F-2	Total Alkalinity	586	2.24	478.65
F-2	Total Calcium	107	2.30	79.97
F-2	Total Magnesium	127	2.20	89.63

Several routine reliability checks were also outside of standard values. They were:

Site	Reliability Check	Value Should Be...	Value is...
F-2	Conductivity/Cations	>90 & <110	76
F-2	Mg/(Ca + Mg)	< 40 %	66%
F-2	Ca/ (Ca + SO4)	> 50 %	31%
CRB	Cation/Anion Balance	< 5%	5.46%
CRB	TDS/Conductivity	>0.55 & <0.75	1.08
CRB	Conductivity/Cations	>90 & <110	68
CRB	Mg/(Ca + Mg)	< 40 %	59%
CRB	Ca/ (Ca + SO4)	> 50 %	22%

The Permittee should work with the lab to make sure that samples pass all quality checks so that the reliability of the samples does not come into question. These inconsistencies do not necessarily mean that a sample is wrong, but it does indicate that something is unusual. An analysis and explanation of the inconsistencies by the Permittee would help to increase the Division's confidence in the samples. The Permittee can learn more about these reliability checks and some of the geological and other factors that could influence them by reading Chapter 4 of *Water Quality Data: Analysis and Interpretation* by Arthur W. Hounslow.

**5. Were DMR forms submitted for all required sites?**

1<sup>st</sup> month, YES ☒ NO ☐  
 2<sup>nd</sup> month, YES ☒ NO ☐  
 3<sup>rd</sup> month, YES ☒ NO ☐

All DMRs reported "no flow".

Page 3  
C/007/0035-WQ04-3  
Task ID #2065  
November 18, 2004

**6. Were all required DMR parameters reported?**

YES ☒

NO ☐

*Comments, including identity of monitoring site:*

All DMRs reported "no flow".

**7. Were irregularities found in the DMR data?**

YES ☐

NO ☒

*Comments, including identity of monitoring site:*

All DMRs reported "no flow".

**8. Based on your review, what further actions, if any, do you recommend?**

No actions are necessary at this time.

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